PRESS STATEMENT

(For Immediate Release)

EARTHQUAKE INCIDENTS IN KARIBA AND SURROUNDING AREAS

Lusaka, 26th December 2024 – The Zambezi River Authority *(the Authority)* wishes to confirm that it has noted the occurrence of earthquake incidents in the Kariba and surrounding areas. The most recent earthquake incident with a magnitude M4.9 occurred at 05:39 hours CAT on 23rd December 2024. Its epicentre was triangulated to approximately 19km on the SSE direction from Kariba Dam, at a depth of 10km. This region is located within the Kariba reservoir, directly behind the Antelope Island in Zimbabwe.

Six other earthquake incidents occurred in the Kariba and surrounding areas, as well as the Hurungwe District in Zimbabwe on 7th December (M4.3), 8th December (M4.1), two incidents on 11th December (one M4.3 in Hurungwe area with insufficient details to locate the second one). Two other earthquake incidents occurred on 20th December (M4.4 and M4.7).

The epicentres of six of the seven earthquake incidents that have occurred since 1st December 2024 were located between 19km and 40km SSE of Kariba Town, either within the Kariba reservoir or Charara Safari Area. The epicentre of the seventh earthquake incident (M4.3) which occurred on 11th December was located approximately 106km away from Kariba Dam in the Hurungwe District of Zimbabwe.

In view of the occurrence of the said earthquake incidents, the Authority wishes to advice its stakeholders and the public at large that earthquakes are primarily reservoir-induced-seismic (RIS) activities that are triggered by not only the presence, but also the water level fluctuations from the drawing down of the Kariba reservoir. The earthquakes are not only limited to Kariba as they have been reported from the filling and subsequent operation of several other large dams and reservoirs worldwide.

The Authority further wishes to inform its stakeholders and the public at large that in the interest of dam safety, it does not focus on magnitudes of the earthquakes, but the ground accelerations or vibrations that are generated from the event. The vibrations/shacking are further influenced by such characteristics as distance and depth of the epicentre. Therefore, an earthquake with a smaller magnitude but with its epicentre closer to the dam wall could be more damaging than a large earthquake with an epicentre located far away from the dam wall. Within this context, the earthquakes that have been experienced in Kariba, Siavonga and surrounding areas since the construction of the Kariba Dam are relatively small and have not generated large ground accelerations or vibrations as to cause concern regarding the safety of the dam wall.

As part of emergency preparedness and Standing Operating Procedures (SOP) requirements regarding the operation of Kariba Dam following the occurrence of unusual incidents, the

Authority inspects the dam and analyses data from the various dam monitoring instruments each time that there is an occurrence of an earthquake incident including that which took place on 23rd December 2024. The inspections and analyse is of data from the various monitoring instruments after the earthquakes referred to above did not reveal any unusual observations and the dam continued to exhibit normal behaviour that is consistent with prevailing loading conditions.

The Authority further wishes to reiterate its commitment to carrying out and delivering on its mandate in respect of ensuring that the long-term safety and reliability of the Kariba Dam is maintained for public safety and for the benefit of the Republics of Zambia and Zimbabwe and the region at large.

About Zambezi River Authority

The Zambezi River Authority is a bilateral organisation that is jointly and equally owned by the Governments of the Republics of Zambia and Zimbabwe (the Contracting States). The Authority's primary function is to operate, maintain, monitor and regulate the water level in the Kariba Reservoir. It is also mandated to construct, operate and maintain any other dam infrastructure on the Zambezi River and to collect, accumulate and process hydrological and environmental data regarding the Zambezi River for improved performance of its functions and for any other purpose beneficial to the socio-economic development of the Contracting States.

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